

What is claimed is:

- 1 1. A process for preparing a polymer loaded with one or more bioactive agents  
2 comprising the steps of:
  - 3 a) providing a solution of the polymer in a suitable first solvent;
  - 4 b) adding an aqueous solution of the bioactive agent to the polymer solution  
5 to obtain a water-in-oil emulsion;
  - 6 c) immersing the water-in-oil emulsion in a suitable second solvent by  
7 injecting the emulsion through a nozzle into the second solvent;
  - 8 d) allowing the first solvent to migrate into the second solvent to obtain a  
9 solid, fibrous polymer loaded with the bioactive agent.
- 1 2. A process according to claim 1, wherein the polymer is biocompatible and  
2 biodegradable.
- 1 3. A process according to claim 2, wherein the polymer is an amphiphilic block  
2 copolymer, comprising hydrophilic blocks and hydrophobic blocks.
- 1 4. A process according to claim 3, wherein the polymer is a copolymer of a  
2 polyalkylene glycol and an aromatic ester.
- 1 5. A process according to claim 1, wherein the bioactive agent is chosen from the  
2 group of antimicrobial agents, such as antibacterial and anti-fungal agents, anti-viral  
3 agents, anti-tumor agents, immunogenic agents, lipids, lipopolysaccharides, hormones  
4 and growth factors.
- 1 6. A process according to claim 1, wherein the bioactive agent is chosen from the  
2 group of peptides, oligopeptides, polypeptides and proteins.

- 1 7. A process according to claim 1, wherein the first solvent is immiscible with water  
2 and miscible with the second solvent, and wherein the polymer is essentially insoluble in  
3 the second solvent.
- 1 8. A process according to claim 7, wherein the first solvent has a greater solubility in  
2 the second solvent when the polymer is dissolved in the first solvent.
- 1 9. A process according to claim 1, wherein the water-in-oil emulsion is immersed  
2 into the second solvent by injecting through a syringe or an extruder.
- 1 10. A bioactive agent loaded polymer obtainable by the method of claim 1.
- 1 11. A bioactive agent loaded polymer obtainable by a process according to claim 9.
- 1 12. A bioactive agent loaded polymer according to claim 10 wherein said bioactive  
2 agent is a peptide, oligopeptide, polypeptide or protein.
- 1 13. A process for bonding fibers according to claim 1 to form a fibrous mesh, wherein  
2 the fibers are collected and are bonded together by use of a suitable solvent mixture.
- 1 14. A fibrous mesh obtainable by a process according to claim 13.
- 1 15. The use of a bioactive agent loaded polymer, according to claim 10, as a carrier  
2 for controlled drug release or as a scaffold for tissue engineering.
- 1 16. The use of a fibrous mesh according to claim 14 as a carrier for controlled drug  
2 release or as a scaffold for tissue engineering.